What is claimed is:

1. A cathode substrate of a carbon nanotube (CNT) field emission display, comprising:

a glass substrate;

a cathode layer formed overlying the glass substrate, wherein the surface of the cathode layer is defined as a plurality of electron-emitting areas spaced apart from each other;

an insulating layer formed overlying the glass substrate and having an opening, wherein the opening exposes the cathode layer;

a gate electrode layer formed overlying the top of the insulating layer and exposing the cathode layer; and

a CNT structure formed overlying the cathode layer, wherein the CNT structure comprises a plurality of sub-CNT structures arranged in array;

wherein, the sub-CNT structures are formed overlying the plurality of electron-emitting areas respectively; and

wherein, the sub-CNT Structures are spaced apart from each other without the insulating layer therebetween.

2. The cathode substrate according to claim 1, wherein the interval of two adjacent electron-emitting areas is 80~150 μm.

3. The cathode substrate according to claim 2, wherein the profile of the electron-emitting area is quadrilateral, circular or any other physical appearance.

4. A cathode substrate of a carbon nanotube (CNT) field emission display, comprising:

a glass substrate;

a cathode layer formed overlying the glass substrate, wherein the surface of the cathode layer is defined as a plurality of electron-emitting areas spaced apart from each other, and the electron-emitting areas are uniform and arranged in array;

an insulating layer formed overlying the glass substrate and having an opening, wherein the opening exposes the cathode layer;

a gate electrode layer formed overlying the top of the insulating layer and exposing the cathode layer; and

a CNT structure formed overlying the cathode layer, wherein the CNT structure comprises a plurality of sub-CNT structures arranged in array;

wherein, the sub-CNT structures are formed overlying the plurality of electron-emitting areas respectively, such that an edge effect is formed at the periphery of each sub-CNT structures; and

wherein, the sub-CNT Structures are spaced apart from each other without the insulating layer therebetween.

5. The cathode substrate according to claim 4, wherein the profile of the electron-emitting area is quadrilateral, circular or any other physical appearance.